will have to reduce fees by the maximum 10%. The rest will have to rollback prices, but by less than the maximum. The average rollback for the whole industry will be just under 6.5%.

The next column assumes that the FCC recognizes and corrects the problem we have identified as being associated with predicting rate levels based on logarithmic statistical models. That would result in a 3.64% increase in the target benchmark for all franchises. As indicated, about 6% more of the franchises will now fall into the unregulated category. In addition, 12% fewer firms will be required to rollback the full 10 %. The average rollback will decrease by less than the 3.64% increase in the FCC's incorrect benchmark prediction, reflecting the fact that some franchises were already pricing below the benchmark and others will remain 10 % or more above the benchmark.

Finally, application of a 28% rollback would have a devastating effect on the industry. The vast majority of systems would be subject to mandated rollbacks. If franchises were required to adjust their benchmark by the entire 28 percent, two-thirds of the them would have to reduce rates by 20-28 percent.

Table 6
Effects of the Benchmark Model on Cable Regulation

	10% Rollback[a]	10% Rollback Unbiased Base[b]	28% Competitive Benchmark[c]
Percent of All Franchises:			
Below Benchmark (Unregulated)	27%	33%	3%
Rates < 10% Above Benchmark	20%	26%	3%
Rates > 10% Above Benchmark	53%	41%	94%

[a] Assumes a 10 % reduction from current model prediction.

[b] Assumes a 10% reduction from current model predicted adjusted upward for bias (3.6 %)

[c] Assumes a 30% reduction from current model prediction

Not only will the benchmarks have an overall effect that is likely to be devastating to undividual companies, but the burden will fall disproportionately on certain segments of the industry. We determined this by taking the computed benchmark for each system in the FCC's sample and then compared it to each system's actual price level. From this comparison, we were able to estimate what the rollback that would be necessary to meet the benchmark.

Table 6

Rate Reductions Necessary to Achieve Benchmark Based on 10 % Rollback

Franchise Characteristics	Rate Decline to Meet Benchmark
Average Firm (Industry Mean)	13%
Typical Firm Located in Pacific Region	20%
For Franchise Older than 20 Years	10%
Large MSO (100 Plus Systems)	19%
Firm Having Single Tier of Service	16%

As Table 6 indicates, the average firm would have to rollback prices 13 % to meet its benchmark even though the intended rollback is supposed to be 10 %. The rollback exceeds 10 % because of the 3.64 % biases stemming from the FCC's failure to make appropriate corrections to the benchmark formula. This is because the competitive effect is estimated to be 9-10% and the bias stemming from the FCC's failure to use the appropriate correction adds 3.6%. For a franchise with a headend 20 years or older, the rollback is less dramatic,

requiring only a ten percent reduction. However, for firms having a single tier of service, the required rate reduction is greater.[19] Moreover, the benchmarks also appear to be biased against MSOs, on average, and against systems located in California, Oregon, and Washington. Although we have no obvious explanation for the MSO effect, it is clear to us that the bias against West Coast States stems from the fact incomes and prices of all goods are higher in this region. In addition, the tax burden on California cable companies is thought to be substantially above the industry average, which would be reflective in higher prices.

V. Conclusions

Benchmarks for cable rate regulation should have two important properties. First, they should be set at an overall level that promotes both efficiency and consumer welfare, while at the same time providing cable industry participants with a fair rate of return. Second, they should be applied equitably, allowing for systematic differences between markets.[20] In order to accomplish these objectives, the benchmark methodology must develop standards that reflect the critical differences between markets, particularly in the cost of doing business[21]. In addition, great care must be taken in estimating a benchmark level that accurately estimates competitive

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[19]This is another distortion created by the functional form of the benchmark formula. It can be rearranged to read:

$$\log(\text{ave. revenue per sub}) = \log(\text{ave. channels}) - .8 \log(\text{tot. channels})$$

When the system tiers, the average for channels drops, but not the total. This leads to a spurious and very significant fall in the allowable rate!

[20]In addition to these two elements, an benchmark system should be easy to implement and monitor. Of course, policymakers generally have to make tradeoffs in achieving these multiple objectives.

[21]This does not imply that all variables used in the statistical model need to be used for generating benchmark differences across communities. However

pricing that would be engendered by effective competition and not by factors extraneous to such competition.

In our study, we have examined the data and methodology employed by the FCC to generate the pricing benchmarks it has proposed. We have analyzed the degree to which the FCC's benchmarks meet the objectives of the Cable Television Consumer and Competition Act of 1992 and have found both that the data and the methodology used by the FCC have serious flaws. As a result, we believe that the proposed benchmarks are too low and that the effect of overbuild competition on basic rates would be vastly over estimated if a 28 percent pricing differential attributable to effective competition were adopted. In addition, we believe that the FCC's underlying methodology for generating benchmark predictions of competitive rate levels contains numerous unaddressed biases.

In Section II, we reported the results of our replication of the FCC findings, employing the FCC's own data and methodology. However, we determined these findings are tainted by errors in the data set. These errors affected the estimated magnitude of the competitive effect on pricing as well as other parameter estimates that are crucial in establishing the wide range of allowable cable rates. For example, we note that the removal of the most obvious errors, though amounting to only 5 % of the sample, has a significant impact on both the level and distribution of the proposed rollback in cable rates (see footnote 5, page 6). In Section III, we examined the FCC's methodology and data in greater depth. We concluded that there is strong reason to believe that overbuild systems differ systematically from other systems in ways that are not accounted for in the FCC approach. For example, overbuild franchises differ in size, in location, in revenue sources, and the likelihood of competition from six over-the-air television stations. Our

analysis suggests that the likely effect of not allowing for these differences is

not only to greatly overestimate the effect of overbuild competition but also to

introduce significant biases that would likely disadvantage certain segments